

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Currently Amended) A method for forming an alignment layer of a liquid crystal display device, comprising:

providing a substrate having a plurality of unit panels formed thereon;

loading the substrate onto a stage;

selectively dropping an alignment material onto a first one of the unit panel regions by an alignment material dropping unit having at least one head, each head having a plurality of holes; and

forming an alignment layer on the substrate to have a uniform thickness,

wherein the selective dropping of the alignment material onto the substrate comprises:

positioning the alignment material dropping unit at a first side of the stage;

driving the alignment material dropping unit from the first side to a second side of the stage to drop the alignment material through holes along a plurality of first dropping paths along a first dropping direction;

shifting the alignment material dropping unit by a predetermined distance along a direction substantially perpendicular to the first dropping direction; and

driving the alignment material dropping unit from the second side to the first side of the stage to drop the alignment material through holes along a plurality of second dropping paths,

~~wherein the second dropping paths are disposed between first dropping paths, and~~

wherein the shift distance of the alignment material dropping unit is smaller than a distance between the holes, such that the second dropping paths are disposed in a region at a separation distance from the first dropping paths between the first dropping paths, whereby the alignment materials in the first and second dropping paths spread after dropping to contact each other.

3. (Currently Amended) A method for forming an alignment layer of a liquid crystal display device, comprising:

providing a substrate having a plurality of unit panels formed thereon;

loading the substrate onto a stage;

selectively dropping an alignment material onto a first one of the unit panel regions by an alignment material dropping unit having at least one head, each head having a plurality of holes; and

forming an alignment layer on the substrate to have a uniform thickness,

wherein the selective dropping of the alignment material onto the substrate comprises:

positioning the alignment material dropping unit at a first side of the stage;

driving the alignment material dropping unit from the first side to a second side of the stage to drop the alignment material through holes along a plurality of first dropping paths along a first dropping direction;

shifting the alignment material dropping unit by a predetermined shift distance along a direction substantially perpendicular to the first dropping direction; and

driving the alignment material dropping unit from the second side to the first side of the stage to drop the alignment material through holes along a plurality of second dropping paths,

wherein the shift distance of the alignment material dropping unit is smaller than a distance between the holes, such that the second dropping paths are disposed in a region at a separation distance from the first dropping paths between the first dropping paths, whereby the alignment materials in the first and second dropping paths spread after dropping to contact each other.

4-7. (Canceled)

8. (Withdrawn) The method according to claim 1, wherein the step of dropping the alignment material on the substrate comprises:

performing a first positioning of a first end of the alignment material dropping unit at a first position of a first side of the stage;

performing a second positioning of a second end of the alignment material dropping unit at a second position of a second side of the stage along a first direction;

dropping the first alignment material onto the substrate along the first direction during the performing of the first and second positioning of the alignment material dropping unit;

displacing the first end of the alignment material dropping unit along the first side from the first position while maintaining the second end of the alignment material dropping unit at the

second position of the second side of the stage, thereby creating an angle θ between a third side of the stage and a side of the alignment material dropping unit; and

dropping the second alignment material onto the substrate along a second direction opposite to the first direction.

9. (Withdrawn) The method according to claim 8, wherein the angle θ is within a range of about $0^\circ < \theta$ and about $\theta < 90^\circ$.

10. (Withdrawn) The method according to claim 8, wherein the first positioning of a first end of the alignment material dropping unit and the second positioning of a second end of the alignment material dropping unit includes moving the stage.

11. (Withdrawn) The method according to claim 8, wherein the first positioning of a first end of the alignment material dropping unit and the second positioning of a second end of the alignment material dropping unit includes moving the alignment material dropping unit.

12. (Withdrawn) The method according to claim 8, the first positioning of a first end of the alignment material dropping unit includes moving the stage, and the second positioning of a second end of the alignment material dropping unit includes moving the alignment material dropping unit.

13. (Withdrawn) The method according to claim 8, wherein the first positioning of a first end of the alignment material dropping unit includes moving the alignment material dropping unit, and the second positioning of a second end of the alignment material dropping unit includes moving the stage.

14. (Withdrawn) An apparatus for forming an alignment layer of a liquid crystal display device, comprising:

an alignment material dropping unit including a plurality of heads each having a plurality of holes for dropping an alignment material onto a substrate;

an alignment material supplying unit for supplying an alignment material to the alignment material dropping unit; and

a connection line unit for connecting the alignment material dropping unit and the alignment material supply unit,

wherein a first portion of the plurality of heads are disposed at an angle 2 with respect to a second portion of the plurality of heads.

15. (Withdrawn) An apparatus for forming an alignment layer of a liquid crystal display device, comprising:

an alignment material dropping unit having a plurality of holes arranged in an offset pattern for dropping an alignment material onto a substrate;

an alignment material supply unit for supplying an alignment material to the alignment material dropping unit; and

a connection line unit for connecting the alignment material dropping unit and the alignment material supplying unit.

16. (Withdrawn) The apparatus according to claim 15, wherein the plurality of holes includes a first plurality of holes disposed along a first row and a second plurality holes disposed along a second parallel to the first row, each of adjacent ones of the first plurality of holes and each of adjacent ones of the second plurality of holes separated by a first interval $d1$ and each of adjacent ones of the first and second pluralities of the holes separated by a second interval $d2$ smaller than the first interval $d1$.

17. (Canceled)

18. (Currently Amended) A method of forming an alignment layer of a liquid crystal display device, comprising:

providing a substrate having a plurality of unit panels formed thereon;

dropping first alignment material at first dropping areas using an alignment material dropping unit, the alignment material dropping unit including a plurality of heads having a plurality of holes dropping the alignment material therethrough; and

dropping second alignment material at second dropping areas using the alignment material dropping unit,

wherein the second dropping areas are disposed between the first dropping areas, and

wherein dropping first alignment material includes positioning the alignment material dropping unit at a first side of the substrate, and wherein dropping the second alignment material includes shifting the alignment material dropping unit along a second side opposite the first side of the substrate by a predetermined distance, and wherein the predetermined distance is smaller than a distance between the plurality of holes, such that the second dropping paths are disposed in the region at a separation distance from the first dropping paths between the first dropping paths, whereby the alignment material in the first and second dropping paths spreading so that the alignment materials in the first and second dropping paths contacted each other.

19. (Canceled)

20. (Previously Presented) The method according to claim 18, wherein the first dropping the alignment material includes;

positioning the alignment material dropping unit at a first side of the substrate; and

driving the alignment material dropping unit to a second side of the substrate opposite the first side to drop the alignment material at the first dropping area.

21. (Previously Presented) The method according to claim 18, wherein the dropping the second alignment material includes returning the alignment material dropping unit to the first side of the substrate to drop the alignment material at the second dropping areas.